however, that excellent oysters of fine quality and magnificent proportions, allied to *Ostrea edulis*, are exported from Spencer's Gulf in South Australia to the Victorian markets, and more especially to Ballarat. Some of these South Australian oysters are of such Brobdingnagian dimensions that it is customary to cut them in four pieces for sale at the oyster saloons, the quarters thus divided being severally allotted to separate shells of ordinary size and sold as single oysters.

Mr. Saville-Kent congratulates New Zealand upon her abundant stores of oysters of various kinds. The days for the systematic artificial cultivation of the oyster in that colony have not yet arrived, and if she carefully husbands her natural resources they may, he thinks, be long delayed.

THE TIBET EXPEDITION.

AT an extraordinary meeting of the Russian Geographical Society on October 14, General Pevtsoff made his report about the Tibet Expedition, of which he was the commander after the death of Przewalsky. Having crossed the main Tian-shan ridge by the Bedel Pass, the Expedition went southwards, through an extremely narrow gorge of the Kara-teke ridge. In some places the gorge has only the width of 30 to 35 feet, while its walls are 700 feet high. The first Kashgarian village reached was Kalpyn, whence the travellers went to Yarkend. From Yarkend they moved on the great Khotan high-road into the northern spurs of the Kuen-lun. There they stayed for some forty days, at a height of 10,000 feet above the sea, at Tokhtahon, collecting many interesting plants and birds, while the geologist of the expedition, M. Bogdanovitch, made a long excursion into the region between the Yarkend-daria and the Tyznan Rivers. On September 13 they left the highlands, and after a three weeks' journey arrived at the Khotan oasis, the population of which (120,000) are skilful in the manufacture of carpets, felts, silks, and so on. From Khotan they went to Keria, and next to Niya, where they left their superfluous luggage, and whence they started to explore the Kuen-lun, in order to try to find a good pass to Tibet. The pass was found at the sources of the Tillan-hadji stream, not far from the Minjilin-khanum monastery. It proved to be quite available both for horses and camels. The winter was spent at Niya. On May 7, the work of exploration was resumed, and next week the Expedition reached the Kara-sai village. Followed by two men only, M. Roborovsky went up the Saryk-tuz Pass (discovered during the preceding autumn), and attained the sources of the Keriya-daria on the Tibet plateau. Its altitude proved to be there 16,500 feet, and its surface was an absolute desert. The want of food for the horses compelled M. Roborovsky soon to return to Kara-sai. He soon made a second attempt at further exploration, but, after having marched some 50 miles southwards on the plateau, he was again compelled to return. During the same time, M. Kozloff went across the border-ridge, following for some 100 miles the Bastan-tigrak River. He passed by Lake Dashi-kul and went up the river which flows into the lake from the east, through a wild desert, 14,000 feet above the sea. He also was soon compelled to return to Kara-sai. The next attempt was made by all three explorers together, accompanied by four Russians and a few natives. They went up the Aksu River, and soon were on a plateau, 15,000 feet high and almost quite devoid of vegetation. Terrible snow-storms were raging in the first days of July. The only mammals seen were two antelopes, and the only bird met with was a lark. Finding no food for the horses, the Expedition had nothing to do but to return to Kara-sai. Thence they started for Tchertchen, and at Atchan they were rejoined by M. Bogdanovitch, who had explored in the meantime the geological structure of the two passes of Saryk-tuz and Aksu. After a short stay at Mandalyk, where good grazing-grounds were found, and the horses recovered, the Expedition crossed again the Kuen-lun *viâ* the Muzluk Pass (15,500 feet high), and after having crossed it they divided into two parties, one of which, under M. Roborovsky, went south-east, and the other, under General Pevtsoff, moved southwards, up the little River Uluk-su, which is the source of the Tchertchen-daria. They soon came to an immense chalky mountain ridge, which rose to about 20,000 feet in the south, while a wide valley stretched south-westwards between that ridge and the Kuen-lun. The party stopped at the foot of this ridge, at a small lake, Yamil-kul. From some natives who were engaged in gold-mining in a gorge of the ridge, they learned that its name is Akka-tai, and that its summits are covered with perpetual snow. The party did not proceed further, and from Yamil-kul they returned to Mandalyk, and thence began their journey to Lob-nor, which journey took no less than one month. From Lob-nor the Expedition went up the Yarkend-daria, visiting on the way the great settlement of Kurla (4000 inhabitants), the fort of Karashar (10,800 inhabitants in the fort and the oasis), and the town Uruntchi, situated at the foot of the Tian-shan, and residence of the Governor-General of West China. On their way to the Russian frontier the travellers visited also the oasis of Sa-tsan, peopled by Chinese, and crossed the Malas River as well as the desert Khatyn-ula. On January 15, 1891, they entered the Russian post of Zaisan.

UNIVERSITY AND EDUCATIONAL INTELLIGENCE.

OXFORD.—The Rev. Andrew Clark, M.A., Fellow of Lincoln College, has been elected by Congregation a Curator of the Bodleian Library, in place of Prof. Max Müller, whose term of office had expired.

The Provost of Oriel College has been re-elected a Delegate of the University Museum.

Mr. F. Liddell, B.A. Christ Church, has been elected to a Fellowship at All Souls' College. Mr. Liddell, who is a son of the Dean of Christ Church, was placed in the first class by the examiners in the Final Classical Schools. Mr. A. H. Hardinge, M.A., formerly Fellow of All Souls' College, has been elected to a Fellowship under Statute 3, Clause 10, of the College Statutes.

There was no candidate for election to the Burdett-Coutts Scholarships. The scholarships are of the annual value of about £115, tenable for two years, for the promotion of the study of geology, and of natural science bearing on geology. This is the fifth occasion since the foundation of the scholarships that there has been either no candidate or no election.

In consequence of the requirements of the Civil Service Commissioners for the limited competition for assistantships in the Royal Observatory, Greenwich, the Savilian Professor of Astronomy has offered a short course of lectures on Newton's "Principia." The study of Newton has been practically abolished from the requirements of the Oxford Mathematical Schools for some time past.

A studentship, provided out of the funds of the Newton Testimonial Fund, having been offered to the University by the Managing Committee of the British School at Athens, the Craven Committee will proceed to make the appointment in the course of the present term. The studentship is of the value of £50, and is tenable for one year. The holder will be required to reside at Athens for not less than three months during the ensuing winter and spring. Candidates should apply to the Secretary of the Board of Faculties, Clarendon Buildings.

CAMBRIDGE.—The first award of the Isaac Newton Studentship in Astronomy and Physical Optics has been made to Ralph Allen Sampson, B.A., Fellow of St. John's College, Cambridge.

Prof. Thomson, F.R.S., has been elected Chairman of Examiners for Part II. of the Mathematical Tripos.

The vacancy of the office of Superintendent of the Museum of Zoology will take place on January 1, 1892. The stipend is £200. Applications are to be sent to Prof. Newton before November 19.

The State Medicine Syndicate report that this year there were 64 candidates for the Diploma in Public Health, of whom 45 were successful. They propose, on account of the large number of candidates, to hold a second examination in the first week of April 1892. The Syndicate have resolved to transfer to the University a sum of £150 from their accumulated funds.

SCIENTIFIC SERIALS.

American Journal of Mathematics, vol. xiv. No. 1 (Baltimore, Johns Hopkins Press).—This number, which contains an excellent likeness and autograph of Prof. Klein, opens with articles by Goursat, "Sur une problème relatif à la déformation des surfaces," and by Appell, "Sur une expression nouvelle des fonctions elliptiques par le quotient de deux séries."—Major MacMahon, F.R.S., contributes a fourth memoir on a new

© 1891 Nature Publishing Group

theory of symmetric functions. The author has extended the subject of these memoirs in a paper with the title "Memoir on symmetric functions of the roots of systems of equations" in the Philosophical Transactions, A. (1890).—The next paper, by C. P. Steinmetz, was read before the New York Mathematical Society, and is entitled "Multivalent and univalent involutory correspondences in a plane determined by a net of curves of *n*th order."—The following note, also read before the same Society, is on the algebraic proof of a certain series. It supplies a "temporary lack," which was regretted by the author, E. McClintock, in a memoir which will be found in vol. ii. p. 108. The same writer furnishes another addition to the memoir just referred to (vol. ii.), on independent definitions of the functions log x and e^x.—H. B. Newson writes on a pair of curves of the fourth degree, and their application in the theory of quadrics; and H. P. Manning finishes this instalment with a note on linear transformation, which was suggested by a method employed by Prof. Cayley, F.R.S., in vol. v. of the *Amer. Journal.*

THE articles in the numbers of the *Journal of Botany* for October and November are mostly of interest to specialists in local floras. Mr. A. Fryer describes and figures a new English *Potamogeton* (or, rather, hybrid). Mr. T. H. Buffham describes and figures the hitherto unknown plurilocular sporanges in two sea-weeds, *Asperococcus bullosus* and *Myriotrichia clavæformis.* Mr. F. N. Williams contributes a synopsis of the primary characters in the species of *Rheum.*

THE last number received of the *Botanical Magazine* published at Tokyo, Japan (for June), contains an interesting article, illustrated, on a new Japanese *Prasiola, P. japonica,* by Dr. R. Yatabe, which, the author states, is collected in large quantities in the districts where it grows, and is sold as an article of food under different names in different localities. It is eaten either slightly broiled or with vinegar, the mode of preparation being very similar to that of the ordinary purple and green lavers. Other articles in the same number are on the reproduction of *Laminaria japonica;* on a recent problem in vegetable physiology (apparently the greatly discussed question of the direct absorption of nitrogen from the air by plants); and on the colours and scents of flowers; but as all these are unfortunately in Japanese, they are inaccessible to the English reader.

THE number of the *Nuovo Giornale Botanico Italiano* for October is chiefly occupied with the Proceedings of the Italian Botanical Society. The attention of Italian botanists is still directed to the interesting phenomena connected with the pollination of the Aroideæ: Signor Caleri has a paper on the flowering of *Arum Dioscoridis,* and Prof. Arcangeli one on the fertilizers of *Helicodiceros muscivorus.* He is unable to discover any evidence that the latter plant is really carnivorous.—Signor Martelli discusses a vine-disease which has lately appeared in the neighbourhood of Florence, and which he identifies with the "black rot" of the American grape, caused by a Pyrenomycetous fungus, *Physalospora Bidwelli.*

SOCIETIES AND ACADEMIES.

LONDON.

Entomological Society, October 7.—Dr. D. Sharp, F.R.S., Vice-President, in the chair.—The Chairman referred to the death, on September 14 last, of Mr. E. W. Janson, who had been a member of the Society since 1843, and who had formerly filled the offices of secretary and librarian respectively.—The Rev. Dr. Walker exhibited a long series of several species of *Erebia,* and of *Argynnis pales,* which he had recently captured near Roldal, in Norway.—Mr. W. L. Distant exhibited specimens of *Danais chrysippus,* with its two varietal forms, *alcippus,* Cram., and *dorippus,* Klug., all which he found together in the Pretoria district of the Transvaal. Mr. Jenner Weir and Colonel Swinhoe took part in the discussion which ensued as to these forms and their distribution.—The Rev. W. F. Johnson sent for exhibition specimens of *Velia currens* from stagnant water near Armagh; also a specimen of *Nabis limbatus,* killed whilst holding on to its prey, a very hard species of Ichneumon. Mr. Saunders thought that, from the nature of the Ichneumon, the only chance the *Nabis* had of reaching its internal juices would be through the anal opening, as recorded by Mr. E. A. Butler in a similar case, in the *Entomologist's Monthly Magazine,* October 1891.—Mr. F. P. Pascoe exhibited two British species of Diptera, unnamed. He said they had been submitted to Mr. R. H. Meade, but were unknown to him, and are probably new to the British list.—Mr. R. Adkin exhibited two specimens of a supposed new species of Tortrix (*Tortrix donelana,* Carpenter), bred from larvæ found on pine-trees at Tuam. Mr. C. G. Barrett said he examined the specimens with great care, but he did not consider that they belonged to a new species. He was unable to distinguish them from *Tortrix viburnana.*—M. A. Wailly exhibited preserved larvæ, in various stages, of *Citheronia regalis,* which he had bred from ova received from Iowa, United States. He said that the natives called this larva the Hickory Horned Devil, and that the specimens exhibited were the first that had been bred in this country. M. Wailly further exhibited three female specimens of *Antheræa yama-mai* bred from cocoons received from Japan; also a nest of cocoons of *Bombyx radama,* received from the west coast of Madagascar. Prof. J. B. Smith, of the United States, and Colonel Swinhoe took part in a discussion on the habits of the larvæ of *Citheronia regalis,* and as to the period at which they dropped their spines prior to pupating.—Dr. Sharp exhibited several specimens of a weevil, *Ectopsis ferrugalis,* the ends of the elytra of which bore a close resemblance to the section of a twig cut with a sharp knife. He said he had received the specimens from Mr. G. V. Hudson, of Wellington, New Zealand, who stated that they were found resting in large numbers on dead trunks and branches of *Panax arborea* in the forests.—Mr. G. C. Champion stated that the species of *Forficulidæ,* captured by Mr. J. J. Walker, R.N., in Tasmania, and exhibited by himself at the meeting of the Society in April last, was, he believed, referable to *Anisolabis tasmanica,* Bormans, described in the *Comptes rendus* of the Ent. Soc. Belgique, 1880.—The Rev. A. E. Eaton made some remarks on the synonymy of the *Psychodidæ,* and stated that, since August 1890, he had identified all of the British species in Mr. Verrall's list, except *Sycorax silacea.*—Mr. Gervase F. Mathew, R.N., communicated a paper entitled "The Effect of Change of Climate upon the emergence of certain species of Lepidoptera." A discussion followed, in which Mr. Stainton, F.R.S., Mr. Barrett Dr. Sharp, F.R.S., and Mr. McLachlan, F.R.S., took part.

Royal Microscopical Society, October 21.—Dr. R. Braithwaite, President, in the chair.—The President said that the pleasure with which he met the Fellows after the vacation was very sadly marred by the death of one of their Secretaries, Mr. John Mayall, Jun. The loss they had sustained was one which the Society could hardly hope to replace, because perhaps there was no living person who knew more about the microscope and its applications than their deceased friend Mr. Mayall. The difficulty in which they were placed had, however, for the present been met by the kindness of Dr. Dallinger, who had undertaken to fill up the vacant place until the end of the current session.—Mr. A. D. Michael proposed, and Mr. T. H. Powell seconded, that a special vote of thanks be given to Dr. Dallinger for his kindness in accepting the office of Secretary. The vote of thanks was carried by acclamation.—Mr. F. Chapman read his paper on the Foraminifera of the Gault.—Sir Walter J. Sendall exhibited and described a new apparatus which he had devised for making accurate measurements with the camera lucida, the inherent faults of which were explained by drawings on the blackboard. Mr. E. M. Nelson said there could be no doubt that camera lucida measurements when made in the ordinary way as described were grossly incorrect, and that the apparatus that had been devised was most ingenious and thoroughly scientific in principle. He thought, however, that there was a much simpler method of obtaining measurements by projecting the image for a distance of 5 feet; the curve would with so large a radius be practically reduced to a straight line. The camera lucida and neutral tint reflector were only rough-and-ready means, and useful only for ready reference; where correctness was of importance, the eye-piece micrometer would best meet the requirements; the ruling of eye-piece micrometers was now done so perfectly that it was possible to arrive at measurements even as small as 1/500,000 of an inch with far greater accuracy than could be attained with any machine. Dr. W. H. Dallinger thought there could be no doubt of the value of the apparatus within certain limits, but it would require great care for use with high powers, partly on account of its weight if made in brass, as the specimen before them; perhaps it might be made in aluminium or some other light material. The discussion was continued by Messrs. A. D. Michael, C. Beck, and Sir Walter J. Sendall.—Mr. W. I.

© 1891 Nature Publishing Group